

WHAT IS CLAIMED IS:

1. An optical disk apparatus comprising:

means for radiating a laser beam onto an optical disk;

5 means for receiving said laser beam reflected from said optical disk and outputting a reflection signal having an intensity corresponding to the amount of reflected laser beam; and

means for comparing the intensity of said reflection signal with a threshold value and detecting occurrence of defocus of said  
10 pickup when the intensity of said reflection signal is lower than said threshold value, detection of occurrence of defocus and determination of the type of said optical disk being performed by means of sequentially varying said threshold value.

15 2. The apparatus according to claim 1, wherein said detection means determines said optical disk to be any of at least three types of disks; that is, a high-reflectivity disk, an intermediate-reflectivity disk, and a low-reflectivity disk, by means of changing said threshold value in at least two steps.

20 3. The apparatus according to claim 1, wherein said detection means determines said optical disk to be any of at least three types of disks; that is, a standard CD-ROM or CD-R, a low-reflectivity CD-ROM or CD-R, or a CD-RW, by means of changing said threshold  
25 value in at least two steps.

4. The apparatus according to claim 1, further comprising gain adjustment means for adjusting a gain of said reflection signal in accordance with the type of said optical disk determined by said

detection means.

5. The apparatus according to claim 4, wherein

said pickup has first amplification means for adjusting a  
5 gain of said reflection signal; and further comprising second  
amplification means for adjusting a gain of said reflection signal  
output from said pickup, wherein said adjustment means adjusts a  
gain of said reflection signal by means of adjusting a gain of at  
least any of said first amplification means and said second  
10 amplification means in accordance with the type of said optical  
disk determined by said detection means.

6. The apparatus according to claim 1, further comprising:

speed adjustment means for adjusting the rotational speed  
15 of said optical disk in accordance with the type of said optical  
disk determined by said detection means.

7. The apparatus according to claim 1, wherein

said detection means sequentially changes said threshold value  
20 from a first threshold value, a second threshold value, a third  
threshold value, and a fourth threshold value (here, said first  
threshold value > said second threshold value > said third threshold  
value > said fourth threshold value) in order to detect occurrence  
of no defocus and determine said optical disk to be a standard CD-ROM  
25 or CD-R when the intensity of said reflection signal is equal to  
or higher than said first threshold value; to detect occurrence  
of no defocus and determine said optical disk to be an  
intermediate-reflectivity CD-ROM or CD-R when the intensity of said  
reflection signal is equal to or higher than said second threshold

value but smaller than said first threshold value; to detect occurrence of no defocus and determine said optical disk to be a low-reflectivity CD-ROM or CD-R when the intensity of said reflection signal is equal to or higher than said third threshold value but  
5 smaller than said second threshold value; to detect occurrence of no defocus and determine said optical disk to be a CD-RW when the intensity of said reflection signal is equal to or higher than said fourth threshold value but smaller than said third threshold value; and to detect occurrence of defocus when the intensity of said  
10 reflection signal is equal to or lower than said fourth threshold value.

8. An optical disk apparatus, comprising:

a pickup for receiving light reflected from an optical disk  
15 and outputting a reflection signal corresponding to the amount of reflected light;

an RF processing circuit which amplifies said reflection signal output from said pickup and outputs an envelope signal of said reflection signal as a focus signal;

20 a processor which detects occurrence of defocus by means of sequentially comparing said focus signal output from said RF processing circuit with a plurality of threshold values and determines the type of said optical disk as at least any of a CD-ROM or CD-R, a low-reflectivity CD-ROM or CD-R, or a CD-RW; and

25 a controller for adjusting a gain of said pickup, a gain of said RF processing circuit, and a gain of a focus servo circuit in accordance with a result of determination.

9. The apparatus according to claim 8, wherein said controller

adjusts a rotational speed of said optical disk in accordance with said result of determination in addition to said gains.

10. The apparatus according to claim 8, wherein said processor  
5 comprises

a comparator for sequentially comparing said focus signal with a plurality of said threshold values and outputting a binarized signal; and

a register for sequentially supplying a plurality of said  
10 threshold values to said comparator.

11. The apparatus according to claim 8, wherein a plurality of said threshold values are set as values which are greater than a DC offset of said focus signal.